

**CLAIMS:**

**1. A position detecting sensor comprising:**

**a first magnet having a first pole and a second pole;**

**a second magnet having a first pole and a second pole and positioned near the first magnet, the first pole of the second magnet facing the second pole of the first magnet, the first pole of the first magnet being the same as the first pole of the second magnet, and the second pole of the first magnet being the same as the second pole of the second magnet; and**

**a magnetic detecting element in the vicinity of the first and second magnets, wherein a magnetic flux density detected in a zone including the magnetic detecting element while a detected body is away from the position detecting sensor more than a predetermined distance is greater than a magnetic flux density detected in the zone while the detected body is positioned near at least one side of the position detecting sensor by the predetermined distance.**

**2. A position detecting sensor according to claim 1, further comprising:**

**a third yoke positioned at the second pole side of the second magnet, wherein the detected body approaches to the first pole side of the first magnet.**

**3. A position detecting sensor according to claim 2, wherein the third yoke is separated from the second pole of the second magnet by a predetermined distance.**

4. A position detecting sensor according to claim 1, further comprising:

a first yoke positioned between the first magnet and the second magnet;

a projecting portion extending at the first yoke in a direction at approximately right angles with a line extending between the first and second magnets;

a second yoke positioned so as to dispose the magnetic detecting element between the second yoke and a tip end of the projecting portion; and

a third yoke oriented near the projecting portion at the second pole side of the second magnet and at one side of the second yoke,

wherein the magnetic detecting element is positioned in the vicinity including a line extending between the tip end of the projecting portion and the second yoke, and wherein the detected body approaches to the first pole side of the first magnet and the other side of the second yoke.

5. A position detecting sensor according to claim 4, wherein the third yoke is separated from the second pole of the second magnet and from the one side of the second yoke by a predetermined distance.

6. A position detecting sensor according to claim 4, wherein the third yoke is provided integrally with the second yoke.

7. A position detecting sensor according to claim 3, wherein a thickness of the first magnet differs from a thickness of the second magnet, and the thickness of each magnet is a dimension in parallel with the direction extending between the first and second magnets.

8. A position detecting sensor according to claim 4, wherein a thickness of the first magnet differs from a thickness of the second magnet, and the thickness of each magnet is a dimension in parallel with the direction extending between the first and second magnets.

9. A position detecting sensor according to claim 3, wherein a thickness of the first magnet differs from a thickness of the second magnet, and the thickness of each magnet is a dimension at substantially right angles with the direction extending between the first and second magnets.

10. A position detecting sensor according to claim 4, wherein a thickness of the first magnet differs from a thickness of the second magnet, and the thickness of each magnet is a dimension at substantially right angles with the direction extending between the first and second magnets.

11. A position detecting sensor according to claim 3, wherein the magnetic detecting element is shifted towards the third yoke.

12. A position detecting sensor according to claim 4, wherein the magnetic detecting element is shifted in a direction at right angles with the extending direction of the projecting portion.

13. A position detecting sensor according to claim 4, wherein the projecting portion extends from an approximately central portion of the first yoke.

14. A position detecting sensor according to claim 4, wherein the third yoke is positioned in parallel with the extending direction of the projecting portion.

15. A position detecting sensor according to claim 3, wherein the third yoke has substantially the same feature as the detected body with respect to magnetic permeability.